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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,475	11/05/2003	Young Sang Byun	8733.927.00-US	7742

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EXAMINER

SCHATZ, CHRISTOPHER

ART UNIT PAPER NUMBER

1733

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,475

Applicant(s)

BYUN ET AL.

Examiner

Christopher T. Schatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

FINAL REJECTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuyama et al. '043 (newly cited) in view of Joffe et al. '519.

Okuyama et al. discloses a method of holding a substrate 3 in a substrate bonding apparatus, said method comprising: providing an upper stage having a contact surface and at least one passage intersecting the contact surface (figure 1); providing a suction force applying means for transmitting a suction force a predetermined distance from the contact surface; arranging a substrate proximate the stage; generating the suction force; transmitting the generated suction force from the suction force applying means to operably proximate portions of the substrate, or transmitting the generated suction force to an application point at a predetermined distance away from the contact surface; and holding the substrate substantially parallel to the contact surface (figures 1 and 8, column 7, line 60 – column 8, line 27). The reference is silent as to a method wherein the suction force applying means is within each passage for transmitting a suction force. Joffe et al. discloses a method of holding a substrate within a substrate bonding apparatus, comprising: providing a stage having a contact surface 210

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and at least one passage intersecting the contact surface (figure 14); providing a suction force applying means within each passage for transmitting a suction force a predetermined distance from the contact surface; arranging a substrate 226 proximate the stage; generating the suction force; transmitting the generated suction force from the suction force applying means to operably proximate portions of the substrate; and holding the substrate substantially parallel to the contact surface (figure 14, column 11, lines 23-55). Applicant is specifically referred to column 11, lines 47-55, where Joffe et al. explicitly discloses a suction cup (which examiner considers to be part of the suction applying means) and states that "The operating suction of the four suction cups 264 is drawn through the hollow center of loader posts 254." Examiner asserts that this disclosure is equivalent to "transmitting the generated suction force from the suction force applying means to operably proximate portions of the substrate." Joffe et al. further discloses that a method wherein the suction force applying means is within each passage is advantageous because said suction force applying means is capable of extending beyond a contact surface to receive the substrate directly from the transfer device (column 11, lines 47-55). Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Okuyama et al.'s method such that the suction force applying means is within each passage as taught by Joffe et al. above. Such a modification would improve the method of Okuyama et al. because the suction force applying means would be capable of receiving the substrate directly from a transfer device and placing the substrate on the contact surface.

As to claim 13, Joffe et al. discloses a method further comprising providing a plurality of vacuum holes within the stage transmitting the generated suction force from the contact surface (figure 14, column 11, lines 23-55). As to claim 14, Joffe et al. discloses a method further

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comprising transmitting the generated suction force from the plurality of vacuum holes to operably proximate portions of the substrate (column 11, lines 47-55). As to claim 15, Joffe et al. discloses a method wherein transmitting the generated suction force from the suction force applying means comprises moving the suction force applying means with respect to the contact surface such that the suction force applying means is operably proximate the at least one portion of the substrate (figure 14, column 11, lines 23-55). Note that the reference explicitly recites "Loader posts 254 are capable of being raised above the upper surface of vacuum chuck 162..." As to claim 16, Joffe et al. discloses a method wherein moving the suction force applying means comprises projecting an end portion of the suction force applying means from within a respective passage to the predetermined distance from the contact surface (figure 14, column 11, lines 23-55). As to claim 17, Joffe et al. discloses a method wherein the projecting comprises arranging an end portion of the suction force applying means operably proximate a portion of the substrate (figure 14, column 11, lines 23-55). As to claim 18, Joffe et al. discloses a method wherein holding the substrate substantially parallel to the contact surface comprises moving the suction force applying means with respect to the contact surface substrate (figure 14, column 11, lines 23-55). As to claim 19, Joffe et al. discloses a method wherein the moving comprises arranging an end portion of the suction force applying means within a respective passage such that the end portion is substantially flush with the contact surface (figure 14, column 11, lines 23-55). As to claim 21, Joffe et al. discloses a method further comprising applying the generated suction force transmitted from the contact surface to at least one portion of a substrate (figure 14, column 11, lines 23-55). As to claim 22, Joffe et al. discloses a method further comprising applying the generated suction force transmitted from the predetermined distance away from the contact

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surface to at least one portion of a substrate (figure 14, column 11, lines 23-55). As to claim 23, Joffe et al. discloses a method further comprising transmitting the generated suction force applied to the at least one portion of the substrate from the contact surface of the stage (figure 14, column 11, lines 23-55). Applicant should note that examiner interprets "transmitting" to mean to pass or be conveyed through space or a medium. Examiner asserts that the suction force in Joffe et al. is "transmitted" either at the contact surface or at a predetermined distance away from the contact surface.

Response to Arguments

Applicant's arguments with respect to claims 12-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher T. Schatz** whose telephone number is **571-272-1456**. The examiner can normally be reached on 8:00-5:30, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christopher T. Schatz



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